Erratum to: Jet algorithms in electron–positron annihilation: perturbative higher order predictions

Stefan Weinzierl^a

Institut für Physik, Universität Mainz, 55099 Mainz, Germany

Received: 1 July 2011 / Published online: 30 July 2011
© Springer-Verlag / Società Italiana di Fisica 2011

Erratum to: Eur. Phys. J. C (2011) 71:1565
DOI 10.1140/epjc/s10052-011-1565-x

After publication of the above-mentioned paper [1], a bug in the numerical program, which has been used to produce the numerical results of this paper, has been discovered. The bug affected the leading-colour contribution of the α_s^3 terms. A typo in the phase-space parametrisation of the five-parton contribution led to the effect that a certain region of phase-space was counted twice, while another region of phase-space was left out. The bug had not been detected previously, mainly because the wrong phase-space parametrisation reproduced the correct phase-space volume. The bug has been found by a re-calculation of the four-jet rates with a new method based on numerical integration of the virtual loop amplitudes [2, 3]. This bug has now been corrected. It turns out that the changes in the results for the event shapes and the moments of the event shapes are not signifi-

cant and the corresponding numbers in refs. [4, 5] need not be updated. However, the changes in the results for the jet rates—and in particular the changes in the results for the four-jet rates—are sizable. Therefore, the numerical results and the plots in [1] need to be corrected. The correct numbers and plots can be found on the archive in the version arXiv:1011.6247v3.

References

1. S. Weinzierl, Eur. Phys. J. C **71**, 1565 (2011). arXiv:1011.6247
2. M. Assadsolimani, S. Becker, S. Weinzierl, Phys. Rev. D **81**, 094002 (2010). arXiv:0912.1680
3. S. Becker, C. Reuschle, S. Weinzierl, J. High Energy Phys. **12**, 013 (2010). arXiv:1010.4187
4. S. Weinzierl, J. High Energy Phys. **06**, 041 (2009). arXiv:0904.1077
5. S. Weinzierl, Phys. Rev. D **80**, 094018 (2009). arXiv:0909.5056

The online version of the original article can be found under doi:10.1140/epjc/s10052-011-1565-x.

^a e-mail: stefanw@thep.physik.uni-mainz.de